



## Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact [support@jstor.org](mailto:support@jstor.org).

# NORTH AMERICAN REVIEW.

No. DXXII.

---

MAY, 1900.

---

## THE GREAT SIBERIAN RAILWAY.

BY M. MIKHAILOFF.

---

THE immense and sparsely populated country of Siberia was for a long time merely an accidental adjunct of the Russian Empire. Its sole importance to the latter lay in the fact that it supplied valuable furs and precious metals. In spite of its enormous extent, its fertility and its various natural resources, it attracted very few Russians who possessed land in their own country. The population consequently increased but slowly.

The first emigrants to Siberia were men who were at variance with the conditions of life in their native country, and were obliged to leave it either of their own free will, or otherwise. To the majority of Russians, Siberia remained an inhospitable land, and its very name called up no other thought than that of cold, exile and dreary drudgery. Time, however, slowly but surely effected an improvement in the relations between Siberia and the mother country. On the one hand, the increasing population of Russia in Europe required more room, and this was to be found in the uninhabited parts of Siberia. On the other hand, the propagation of more exact information about its natural wealth and great fertility soon modified public opinion, and what had seemed but a land of exile began to exercise the allurements of a land of promise.

At that time the community of interests between Russia proper

VOL. CLXX.—NO. 522. 33

Copyright, 1900, by THE NORTH AMERICAN REVIEW PUBLISHING COMPANY. All rights reserved.

and its colony became daily more distinctly felt, and Siberia began to be of more vital importance to the former. Side by side with this slow economical evolution, a radical change took place, in the middle of this century, in the views of the governing bodies concerning Russia's political interests in Siberia. Simultaneously with the annexation of the Amur, Primorsk and Usuri territories, and the opening of Japan to foreigners, Russia firmly established herself on the shores of the Pacific and took steps to consolidate her power there. The time had now come when the Government had to face the main obstacles which prevented closer intercourse between the two countries, retarded the solution of Russia's political problems in Asia and stood in the way of the normal development of the region. These obstacles were time, distance and the vast extent of Siberia.

The only way to overcome these obstacles was by the construction of a railway throughout the whole extent of Siberia. This idea was first mooted about 1850, but the Russian Government for a long time hesitated to undertake the execution of this project, through apprehension of the immense expense it would entail. However, the present Minister of Finance, M. Witte, had the requisite faith in Russian financial resources. Being appointed Minister of Ways and Communications at the beginning of 1892, he rapidly conducted surveys of the railway line; and then, becoming Minister of Finance at the end of the same year, he insisted on the immediate construction of the great Siberian Railway.

According to the original plan, the direction of the Siberian Railway was to be as follows:

|  | Kilos. |
|--|--------|
| From Chelyabinsk to Omsk, West Siberian Railway.....   | 1,415  |
| From Omsk to Irkutsk Central Siberian Railway .....    | 1,828  |
| From Irkutsk to Missoyaga, Baikal Railway .....        | 318    |
| From Missoyaga to Stretensk, Transbaikal Railway ..... | 1,076  |
| From Stretensk to Khabarovka, Amur Railway .....       | 2,132  |
| From Khabarovka to Vladivostok, Usuri Railway .....    | 764    |

Some time later, two very important changes were made in this original scheme.

In consequence of the great technical difficulties presented by the Baikal line, and in order to accelerate the construction of a continuous railway through Siberia, it was decided to make a straight line from Irkutsk to Lake Baikal. The train was to cross the lake on special ice-breakers, similar to those in use between Lake Huron and Lake Michigan in America. In consequence of

even greater difficulties presented by the Amur line, permission to construct and exploit a railway in Manchuria, connecting the Baikal line with Vladivostok, was obtained by the Russo-Chinese Bank from the Chinese Government. Thus the estimated length of the Siberian Railway was reduced by about 550 kilometres. In March, 1898, the Chinese Government permitted the construction of a branch to Port Arthur and Ta-lien-wan, and in this way the Siberian Railway acquired two outlets to the Pacific, of which one is free from ice all the year round.

Though the project of constructing the Amur Railway was now left in abeyance, yet the junction of Vladivostok with Khabarovka was effected, and thus Russia will soon have both an uninterrupted railway route through Manchuria and a combined railway and waterway in the direction of Irkutsk, Stretensk, Shilka, Amur, Khabarovka, Vladivostok. The construction of the railway is very rapidly advancing, and the West Siberian, Central Siberian and Usuri lines actually are completed and opened for traffic. On the other portions, work is being carried on very energetically.

Let us now glance at this country, of which so little is known, and consider the present and prospective results of the construction of the railway. Siberia occupies 5,000,000 English square miles in the northern part of Asia. Its natural features are very varied. The western and northern parts of this enormous country consist of a level plain: in the north, the lifeless swamps (tundra) merge into a large tract of virgin forest. Further south, this is succeeded by rich steppes, which resemble the pampas, and extend to the mountains which occupy the southern and eastern part of Siberia.

The polar tundra zone occupies all the space north of the sixty-fourth degree of latitude. It is a swampy plain covered with moss and bush and frozen during the greater part of the year. Its soil never thaws to a greater depth than one foot, and consists of alternate layers of frozen earth or pure ice. Anything approaching civilized life is out of the question in this desolate land. Its sole inhabitants are a few nomadic tribes, who eke out a living by fishing, hunting and the breeding of reindeer.

The region between the fifty-seventh and the sixty-fourth degrees is covered with thick virgin forest, consisting of ancient cedars, larches, pines and other species of firs. Further south we find, in addition to these, birch, poplar, aspen and even linden

trees; a great quantity of berry-bearing and other bushes increase the variety of plants, and hops and other climbers winding round the trees remind one of the virgin forests of America. In this vast region, with its boundless forest wealth, habitable spots are chiefly found on the banks of the different rivers.

To the south of this forest tract, we find a cultivated belt of land, very spacious in the west and much resembling a steppe. It extends as far as the mountains which stretch along the south of Siberia. The steppes of Western Siberia have the appearance of plains, covered with luxurious vegetation and birch groves. The soil is rich and fertile, and tends to promote the development of agriculture and settled life. In these steppes, there are large water basins like Lake Chany, surrounded by smaller lakes.

The Siberian mountains extend along the southern border of Siberia and then occupy its whole eastern part. They are remarkable for their beautiful views. Many picturesque spots in the Altai Mountains and Semiretchensk might be compared with those of Switzerland, and the Irtish flowing through the mountains resembles the Rhine.

Siberia extends from the Arctic Circle right away to the steppes of Central Asia, and therefore presents many varieties of climate. There are the perpetual frost of the lifeless tundra deserts, the tropical heat of Central Asia, the genial climate of the favored spots at the foot of the Altai Mountains, the balmy air in the oases of the Chui Valley and Lake Issik-Kul and the striking southern vegetation of the banks of Amur. Owing to those climatic variations, we meet with the most startling changes in natural features, and an amazing variety of flora and fauna.

Siberia possesses four great river basins, which are equal to those of the largest American rivers. Three of them—Obi, Yenisei and Lena, with their numerous tributaries—greatly facilitate the trade of the interior, and the fourth river, the Amur, facilitates intercourse between Central Siberia and the Pacific.

The population of Siberia consists of very various elements. After the bloody and rapid conquest of Siberia, it became for some time an *El Dorado* for hunters and gold diggers. Like the Spaniards in America, these were attracted by the thirst for gain, and they treated the natives with the most barbarous cruelty and plundered in the most irrational manner the natural treasures of the country. Some time later these rough and ready

pioneers were succeeded by exiles. These were but few in number at first, but latterly there were as many as 18,000 to 20,000 yearly. The introduction of this element was of sinister import for Siberia. It was forced to accept criminals, who had been driven forth from their own country and who, hardened in their wickedness, could not but have a contaminating influence on the people they came among. Fortunately for Siberia, at the same time with this artificial colonization, a natural colonization was advancing, for men who had been unfortunate in their native land were attracted by the free life of Siberia and made their way thither in small but steady numbers. From these men, who had proved themselves enterprising and of great physical and mental vigor, the present population of Siberia has been evolved. It embodies all the best characteristics of the daring adventurers and *conquistadores* who first subdued it; of the exiles and emigrants, who went there in such numbers, and of the Cossacks and peasantry, whom the Government induced to settle there by the offer of large subsidies, hoping thereby to promote the development of agriculture. The unaided struggle with stern Nature called all their hardier qualities into play. The result is a vigorous, enterprising type, not unlike that which we meet with in the United States, Canada and Australia.

The Russian population of Siberia moved farther and farther eastward from the Ural Mountains through the southern part of Siberia; at present it occupies a broad, unbroken belt of land, which narrows down toward Lake Baikal. Small branches are found on the banks of the chief rivers, the Obi, the Yenisei, the Lena and the Usuri, and extend from the basin of the last to the shores of the Bay of Peter the Great. Besides this, little Russian communities are scattered about in different places.

The indigenous Mongol, Finnish and Tartar tribes of Siberia, which occupy immense tracts, are much smaller in number than the Russian population, whom they surround on all sides. Immediately beyond the Ural and north of the region entirely occupied by Russians, there lives the tribe of Voguls. Further north and northeast we find Siberian Tartars, Ostyaks, Samoyedes, Tunguses, Yakuts, Yukahirs, Koryaks, Tchuktchis, Kamchadales and Guiliaks. With the exception of the Tartars, who are partly settled, these are all nomadic tribes, and are engaged in hunting, fishing and cattle raising. In the extreme north, rein-

deer breeding is carried on. South of the region occupied by Russians, there are settled Siberian Tartars, Kirghizes, Altayans, Kalmuks, Soyots and Buriats, who live only by cattle breeding and agriculture. Some of these elements of the Siberian population such as Tchukthchis, Guiliaks, Kamchadales, who are not amenable to the influences of civilization, are very scant in number, and will most likely die out altogether; others, such as Kirghizes and Buriats, on the contrary, are important ethnographical unities, and give promise of increased vitality.

The mineral wealth of Siberia, particularly in its eastern part, is fabulous; its extent is far from being finally determined, but it is certain that its treasures are almost inexhaustible. The area of its auriferous regions is much larger than that of the celebrated gold mines of California, Australia and Africa taken together. Beginning from the Alatau Mountains, of which both slopes are very rich in gold, this auriferous region extends eastward along the northern slope of the Saiansk Mountains in an almost continuous broad strip. Then it continues across both slopes of the Stanovoi and Yablonoi Mountains right away to the extreme east of Siberia. The extensive gold deposits of the Yenisei, Olekma, Vitim, and many other river systems, constitute, as it were, an immense addition to the chief gold area. Up to the present, gold has almost exclusively been obtained from sand. Mining of gold ores is carried on in the Yenisei, Altai and Transbaikal district, but only to a very small extent, owing to the difficulty of working and the lack of mechanical appliances.

In many parts there are lodes of copper, silver and lead. Those found on the branches of the Saiansk and Alatau Mountains, in the district of Nertchinsk and the Kirgiz steppe are particularly remarkable. The quantity of metal contained in the ores varies greatly. Silver, lead and copper mining reached a high point of development last century, but within the past twenty-five years this industry has begun to fall off, chiefly owing to the rise in the price of labor.

Iron and coal exist in great quantities throughout the whole extent of Siberia, from the borders of the Government of Orenburg to the mouth of the Lena, to Kamtchatka, the Island of Sagalien and the frontier of Korea. At the present time, coal is worked only in the Kuznetsk basin, on the Island of Sagalien and in the Kirgiz steppes. It is also proposed to exploit the

coal beds recently discovered in the southern part of the Primorsk province. These have been surveyed and found to be very rich, and to contain some quantity of anthracite. Contiguous veins of coal and iron were found in some places, foundries were formed, but these have been in anything but a flourishing condition until quite lately, owing to the small demand for their output and their remoteness from the markets.

In Western Siberia, common salt is extracted from the self-depositing lakes, which occur in considerable numbers in the southern portion of the steppe region lying between the forty-seventh and fifty-fifth degrees of north latitude and the sixty-third and seventy-third degrees of east longitude (from Paris), which was once the bottom of a sea basin. In the northern portion of this salt basin, which embraces the Barabinsk and Kouloundinsk steppes, the salt lakes always contain a greater or less amount of other salts besides common salt. There are many lakes which contain rich layers of glauber salt only. In Eastern Siberia there are very rich beds of rock salt, but the best salt springs and layers are found in thinly inhabited districts, so that transport to the markets is very expensive, owing to the want of proper means of communication.

Besides all this mineral wealth, tin, mercury and sulphur are found in the Transbaikal territory; naphtha on the Sagalien Island and many kinds of precious stones, such as lapis-lazuli, topaz, beryl, aqua-marina, etc., in the Transbaikal territory.

In the basin of the Yenisei, large deposits of graphite are found. From experiments made in America, this seems to excel the Ceylon variety in purity.

Siberia has long been famous for its fur-bearing animals and the teeming wealth of its rivers and lakes. After agriculture and cattle breeding, fishing and hunting are the chief pursuits of the inhabitants. The shooting and trapping of squirrels is at present the main object of the chase. In the northern part of Eastern Siberia, where the slaughter of fur-bearing animals has not been quite so wholesale as in Western Siberia, more valuable fur-bearing animals, such as the marten, ermine, sable, fox and arctic fox, are caught. Beavers, which formerly existed in Kamtchatka, are now very rare, but the fur industries in the waters washing the Russian shores of the Pacific are much more important at present. Among the most important is the seal in-



dustry, which is specially developed on the Commandorskie and Pribyloff Islands, the former belonging to Russia, the latter to America. From 1871 to 1891, 730,539 seal skins came into the market from Russian territory alone. Besides seals, the northern and eastern waters of Russia are very rich in sea calves, whales, sea lions and other marine animals.

The supply of fish in Siberia, and particularly in the rivers falling into the Pacific and Northern Oceans, is almost inexhaustible. The Sea of Okhotsk and the Sea of Japan abound in fish. The more valuable species of fish, kinds such as sturgeon and salmon, are so plentiful that while making their periodical progress from the seas to the rivers, they force each other on to the bank, whenever the stream happens to be shallow. Capital is so scarce, means of communication so scant, and the natives know so little of fish curing, that only so much fish has been consumed hitherto as was required locally, the remainder being sent to Japan by Japanese traders.

Notwithstanding the immense wealth of Siberia, manufacturing industry and trade have not been able to develop themselves to a corresponding extent, owing to the thinness of the population and the absence of cheap and suitable means of communication. Consequently, though there have been repeated attempts on the part of the Government and private individuals to establish industry on a large scale in Siberia, manufactories and works have been started there only with the greatest difficulty, and only such have succeeded as served to meet the modest wants of a small local population or produced an article of such value that it could bear the cost of carriage to a great distance.

Such was the general condition of the country at the time when the construction of the great Siberian Railway heralded the dawn of a new era.

Though the line will not be finished till 1902, some instances have already come to light which prove what a great civilizing effect it will have in future. Among others, we may note the rapid increase in the population. As we have already mentioned, the Russian Government long ago took various measures to attract pure Russian elements to Siberia. At present, the Russian Government deems it very necessary to consolidate Russian national feeling there in view of a possible invasion of the region by the yellow race in the near future. The Government has,

therefore, taken this matter under its direct control, propagating exact information about Siberia, publishing special maps on a large scale, preparing and adapting sections of land for the settlement of immigrants by the help of local Government agents. Such places as still remain uninhabited, owing to their wild character, are carefully explored. There is yet but little land available for colonization, and which could be granted to newcomers without encroaching on the reserves of the old inhabitants, whether Russian or indigenous; and the greater part of these lands is already occupied.

Therefore, the Government has now permitted the occupation of tracts less suitable for culture, which have hitherto been waste land, as, for instance, the well-known Barabinsk steppe, which suffers from a lack of good water and is infested with insects that torment the inhabitants. Further, with a view to extending and enlarging the area for the reception of immigrants, forests are being cut down, drainage systems planned and wells sunk for the purpose of obtaining good water. In order to ensure the future prosperity of the immigrants, the Government is taking measures of every description to preserve the forests and natural riches in those parts intended for settlements. It furnishes material assistance and provides medical aid for immigrants who are usually of the poorer classes, and it has set aside a special fund for their benefit. In this way, regions which till quite lately were endless steppes, such as we find in Western Siberia, or dark, impassable forests, as in Eastern Siberia, even now, when the railway is far from being completed, already show a great animation. In many places along the line, settlements with a population of 8,000 or 9,000 have already sprung up, such as the settlement of Novonikolaevsk, near the bridge across the Obi, the station of Taiga at the beginning of the Tomsk branch, and the stations of Niman and Krasnaya-rietchka on the Usuri line. The following table shows the annual number of immigrants:

| In        | Men.   | In         | Men.      |
|-----------|--------|------------|-----------|
| 1887..... | 25,137 | 1894.....  | 72,224    |
| 1888..... | 35,848 | 1895.....  | 120,000   |
| 1889..... | 40,195 | 1896.....  | 201,622   |
| 1890..... | 48,776 | 1897.....  | 84,973    |
| 1891..... | 87,432 | 1898.....  | 175,000   |
| 1892..... | 92,146 |            |           |
| 1893..... | 64,321 | Total..... | 1,047,679 |

The Siberian Railway has brought into the country not only

a new population, but new institutions and new culture. It was difficult for the new arrivals from Russia to adjust themselves to the legal forms which already existed. This fact prompted the Government to extend to Siberia the statutes of the Emperor Alexander II., relating to juries and the appointment of justices of the peace. The great importance of this reform can only be realized by Siberians, who, thanks to it, will really obtain speedy and equitable and clement justice, but who were previously tried in courts of an administrative character. In a short time this reform was followed by the long-wished-for abolition of transportation of criminals.

Simultaneously with the increase of population in the districts through which the Siberian Railway passes, and in proportion as it was opened to traffic, all kinds of industries, which already existed there, began to develop. It now seemed possible to export goods to the Russian and foreign markets, which could not be sent there under the former conditions of transport. The greatest improvement hitherto has been apparent in agriculture, which, as already stated, constitutes almost the sole occupation of the civilized inhabitants. Thanks to the railway, Siberian corn has found its way to foreign markets. Indeed, since the opening of the West Siberian line, the railway authorities have sometimes been unable to send off all the consignments of corn in proper time. These were often stored in large quantities along the line. In 1898, there were 6,500 wagon loads of corn stored in this way; 240 wagons were added daily, and the railway could only send off 120 wagons. The export to Russia of tallow, skins, wool and frozen meat has increased enormously of late years. This is one result of the development of cattle breeding in those districts traversed by the railway. Another is the increased activity in the butter-making industry, especially in the Province of Tobolsk. This industry has found a large market abroad, some 2,600,000 kilograms of Siberian butter having been exported in 1896.

Of course, these facts show only the small beginning of the great revolution which will be effected by the railway in all branches of Siberian economical life, in agriculture and cattle breeding, manufactures and trade. In the mining industry, we might say that at present attention is only given to the working of gold. Such a state of affairs is abnormal, for besides gold

there are immense stores of other mineral wealth. The construction of a railway near rich seams of coal, iron, copper and other minerals will give an impulse to the working of them; for, on one hand, the railway itself will require some of the productions of mining industry; on the other, it will make it possible to largely extend the market for them, and thus will bring about a better organization of existing mining enterprises.

The construction of the Great Siberian Railway has even now begun to produce a marked effect on Siberian trade, which formerly was carried on entirely by monopolists. In each district or town there was a local capitalist, who laid in a stock of goods at the fairs of Nijni-Novgorod, or elsewhere, and then fixed his own prices according to the means of his customers, and competition was non-existent. An enterprising man, who had neither capital nor credit, could not compete with these monopolists, because of the absence of good means of communication. This abnormal state of affairs is already improving. The railway which has connected Siberia with centres of production has rendered travelling cheaper and quicker, and made capital circulate more freely. People of small means are now enabled to make long journeys for the purchase of stock, and they can enter into direct communication with the producers and wholesale merchants in large centres. The trade of Siberia has become more democratic, and increasing competition has effected a change in its character.

Notwithstanding the small population, the uniformity of occupation, the poverty of the inhabitants and the absence of important industrial centres along the line, the traffic on the portions of the railway already opened has exceeded all expectations. Instead of the former three pairs of trains each day, as originally intended, the managers have been obliged to send off five pairs daily. These convey consignments of raw materials, particularly grain, and are sent to the markets of Russia and Western Europe. Purely local loads sent from one part of Siberia to another are small in quantity, for, owing to the uniformity of occupation in Western and Central Siberia, large exchange of goods is unnecessary, and the country people can supply their own modest wants. The influence of the railway on the export of Siberian goods to the adjacent countries of Asia is so far also very insignificant. But, of course, this state of affairs is only temporary, and may be

explained by the fact that the railway is not yet finished, and that Siberia is only beginning to emerge from very primitive conditions. With the termination of the railway and the influx of population and capital to the country, not only will the trade of the interior be developed, but Siberia will also supply the countries of Eastern Asia with manufactured goods.

One of the inevitable results, in conjunction with the influx of immigrants and capital, will be a greater division of labor, so necessary to the economical development of these dominions. In dependence on the natural and economical conditions, the population of each locality will devote their attention to one or many defined industries, and the railway will assure the sale of their goods either abroad or in other parts of Siberia.

As far as we can judge at present, Siberia will in future be divided into the following industrial regions:

(1.) The agricultural region, extending along the railway line from the Ural to Lake Baikal. The products of this region, which are principally grain, will be sent abroad through Russia in Europe and also to Eastern Siberia and Turkestan. The project of a branch line to Turkestan has already been discussed by the Administration, and its construction is merely a question of time. This branch line would indirectly be very advantageous to the whole Empire, for Siberian corn could be sent over it to Turkestan, and the inhabitants of that country would then devote their entire energies to the cultivation of the cotton plant.

(2.) Two cattle breeding regions, in Transbaikalia, and in the steppes of Western Siberia, south of the agricultural region.

(3.) The forest region, occupying the immense forests north of the agricultural region.

(4.) The fishing centres, along the shores of the Pacific and near the mouths of large rivers.

(5.) The mining and manufacturing region, which coincides with the basin of the Amur, and to which we may add the territory situated northeast of it and the Island of Sagalien. Owing to its mountainous character and the comparative absence of land suitable for agricultural purposes, the cultivation of cereals is not likely to be carried on here on a large scale, more especially as countries round about—Central and Western Siberia, Manchuria, Korea, Japan, China, India and America—are already well supplied with grain. We may presume that gold mining

will for a long time remain one of the chief occupations of the inhabitants of this region. On the other hand, the abundance of coal and iron in this region—both such powerful aids to economical development—sufficiently guarantees the rise of the manufacturing industry at no very distant date. In the Amur territory, there will doubtless be a rapid growth of factories to supply the large demand for cotton goods in the neighboring countries of Manchuria and Korea. These factories will draw their supply of raw material from Russian Turkestan, China, Korea, India and North America. The importation of woollen stuffs to China and Japan, where no sheep breeding is carried on, is increasing yearly. It would be greatly to the advantage of the Amur manufactories to participate in this industry, as they could procure large quantities of cheap wool from Transbaikalia and Mongolia. Finally, the climate and soil of the Amur territory are both favorable for the cultivation of the sugar beet, tobacco, flax and hemp, the manufactured product of which may also find a market in the countries round about.

In the economical awakening of Siberia, and particularly of its richest part—the basin of the Amur—an important rôle will doubtless be played by the United States, which is the nearest civilized neighbor, with whom Russia can have no serious misunderstandings. The trade of North America with Vladivostok has hitherto not been very extensive, and has been confined to the importation of small quantities of flour, other foodstuffs, machinery, agricultural implements, leather, etc., from San Francisco. Owing to the absence of economical life in Siberia, nothing else, of course, was to be expected. But the small volume of trade up to the present time is no indication of what future years will bring about. In fact, an improvement has already been made, and American factories have supplied various materials, locomotives and rails particularly, for the Manchurian railway.

The Manchurian railway at present consists only of a single line, but the management has had the track made broad enough to admit of a double line, and its construction will follow in due course. For the construction of this second line 192,000,000 kilograms of rails will be required. Then, besides the amount of rails necessary for the smaller yearly repairs on the Manchurian and Siberian lines, and the proposed branches of the latter, 960,000,000 kilograms of rails will be required in ten years' time

for a thorough repair of these railways. At the same time, a gradual renewal of the rolling stock will be necessary. At the rail, engine and car-building works of the United States work is as well done as in England, and at the same time much more quickly and cheaply; it is therefore certain that the United States will have many opportunities of supplying the Siberian and Manchurian railways with rails and rolling stock. In general, machinery and mechanical industries of America will find a large market in all parts of Siberia for their productions, such as machinery necessary for new manufactories and workshops, and for various mining industries, agricultural implements and appliances for the equipment of fishing and other vessels. It must be mentioned here that the Russian Government, in order to promote the economical development of Siberia, has sanctioned the importation, duty-free until 1909, of all plants necessary for the Siberian and Ural mining industry, through all her frontiers. Besides this, no customs dues are to be levied until 1903 upon fishing nets and machinery necessary for the different manufacturing and mechanical establishments of Siberia, which may be imported through the mouths of Siberian rivers.

Among other important articles exported from the United States, the following may find a market in the districts traversed by the Siberian railways: In Manchuria, cotton goods and sugar and steel and iron ware, which, as contracted between the Chinese Government and the company constructing the Manchurian railway, will be subject only to the ordinary Chinese customs duties when brought to Manchuria *via* Dalny; in Siberia, chemical goods, soap, fruit, hops, watches, musical instruments, cycles, typewriters, tinware, ready-made clothing and last, but not least, raw cotton for the factories, which, as stated above, will certainly spring up in the Amoor territory. Siberian productions which may find a market in the United States are hides, wool and especially coal.

It is not only the coal-fields of Siberia, but likewise all the rich stores of natural wealth, that are awaiting the advent of energetic and enterprising men. To such the Russian epithet "gold bottom," as applied to Siberia, will prove no misnomer. These vast treasures are lying idle because of the absence of capital and enterprise. In this respect Siberia offers a wide and important field of action to the capitalists of North America,

who are famous for the breadth of their views and their energy. Every serious enterprise in Siberia in which American capital will be invested will be welcomed by the Russian Government.

The Siberian Railway will be an important factor in the trade of the world, as a means of transit between Europe and the Far East. It is true that, in this respect, it has rivals in the sea route through the Suez Canal, and the combined sea and land route through North America. Yet the Siberian Railway has on its side an advantage, which is most important in our day, and which is indicated in the old saw, "time is money." With the completion of this work, Port Arthur will be connected with St. Petersburg by a railway of 5,850 English miles, with Berlin of 6,350 English miles, with Paris of 7,100 English miles and with London of 7,300 English miles. With the quick trains on the European system, these distances could be covered in from eight to ten days (in five and a half days by the Nord Express). But even if we take the present speed of the West Siberian trains (twenty-two versts an hour), it follows that only eighteen days are necessary for the journey from Western Europe to Port Arthur. This speed can easily be increased to twenty-five versts an hour. Then the journey from London to the Far East will take the following time by the rival routes:

|                                   | To Yokohama. | To Shanghai. | To Hongkong. |
|-----------------------------------|--------------|--------------|--------------|
| <i>Via Siberian Railway</i> ..... | 18 days.     | 17 days.     | 20 days.     |
| <i>Via Suez Canal</i> .....       | 34 days.     | 23 days.     | 25 days.     |
| <i>Via America</i> .....          | 25 days.     | 31 days.     | 33 days.     |

This great advantage possessed by the Siberian Railway will cause an important revolution in the communications between Europe and the Far East. Firstly, the mails, for which speed is so essential, will be sent by this railway, and secondly, the greater part of the passenger traffic will come to it. It is true, that some apprehension is felt about the fatiguing effect of a long railway journey on the passengers, but in the special Siberian trains everything is done that can conduce to comfort and amusement. There are a library, bath rooms, and even cars fitted up for gymnastics. Of course, the railway journey is not so pleasant as the voyage on one of the excellent ocean steamers, when the weather is fine. But, first of all, the Chinese Sea and the Indian Ocean are never calm except in March and April, and, secondly, there is for two whole weeks no escape from the intense tropical heat when coming through the Suez Canal. The Canadian route,



on the other hand, involves a double transfer from ship to train. We must also bear in mind the fact that the Siberian route will be the cheapest as well as the most rapid one. At present the journey from Paris or London to the ports of China and Japan, by the transoceanic route, costs, first-class, from 1,800 to 1,840 francs, including food. But owing to the very low fares charged for long distances in the Russian Empire, the overland journey will cost in all only from 800 to 950 francs—that is, only about half the cost of the route by Suez or America.

With the goods traffic, things will be different; for most commodities, the cost of transport is more important than speed; therefore, as far as all heavy merchandise is concerned, the railway cannot compete with the sea route. But, in spite of this, we may anticipate that the greater part of valuable goods from Russia, or Europe, to the Far East will be sent by railway, as, with a tariff of half a cent per English mile, per ton, the transport by land would only be slightly dearer than by sea, not to speak of the possibility of reducing the land journey to twenty-five or thirty days, whereas, by sea, at present, goods from Moscow to Vladivostok are forty-five days in transit. Goods which suffer from sea-damp and tropical heat will also be sent by the Siberian Railway.

The Manchurian railway will have at its own disposal steamers running between the *termini* of the Siberian Railway and the chief ports in the Far East, which will also tend to attract passengers and goods to the Siberian line.

The Siberian Railway will greatly consolidate Russia's position on the shores of the Pacific, facilitating the transport of important military forces thither at any time.

The outlay of the immense sum of four hundred million roubles for the construction of the railway obliges Russia to do her utmost to recompense herself for this outlay by developing the economical forces of Siberia and attracting as much traffic as possible to the railway. Therefore, from the moment when the railway is completed, Russia's principal task in the Far East will be, not the encouragement of political and territorial aggrandizement, but a ceaseless effort to promote peace and tranquillity, those main factors which will enable the Siberian Railway to play its economical part as the vital artery of Siberia and all the Old World.

MIKHAILOFF.